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PROTIC IONIC LIQUIDS IN THE SYNTHESIS OF ANALOGS OF IMMUNOSTIMULANT PLERIXAFOR

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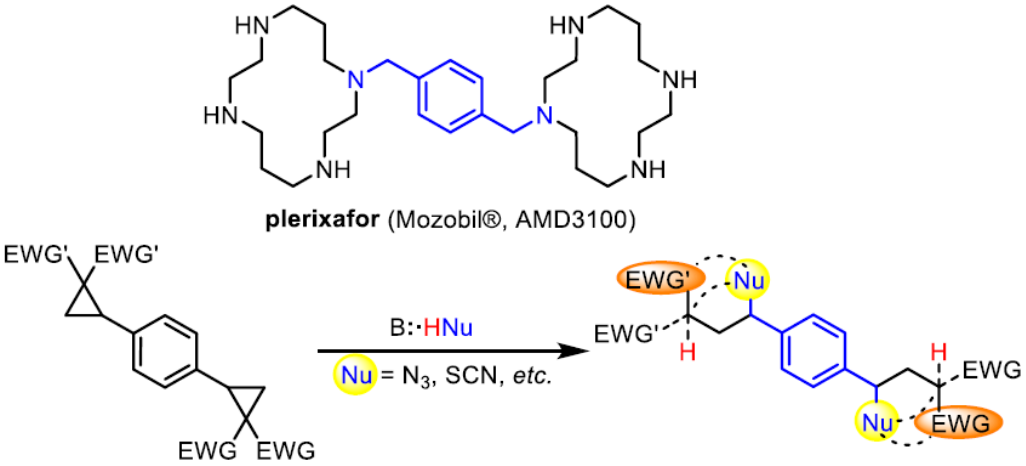
Abstract. Plerixafor (also known as Mozobil®, AMD3100) is an immunostimulating agent approved by FDA in 2008 and widely used in the therapy of hematological malignancies[1]. This compound is a polyamine consisting of two cyclam rings connected by a *p*-xylylene linker. The existing synthetic strategies towards plerixafor are discussed in a recent review.[2] To date, a variety of plerixafor structural analogs containing a *p*-xylylenediamine fragment are known. Some of them exhibit biological activity similar to that of the original drug.[3]

We have synthesized new structural analogs of plerixafor, in which both cyclam fragments are replaced by other nitrogen-containing moieties, such as cyclic or acyclic amines and amides. The synthetic procedure included a double donor–acceptor cyclopropane ring-opening with nitrogen-containing nucleophiles (azide, thiocyanate, *etc.*) in protic ionic liquid media acting as both a solvent and an acidic catalyst followed by post-modifications.



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